```
function [data_array boundary_vector] = shape_to_data(X,Y,Z)

  %takes in a shape defined by three equally sized, seperate vectors, and returns an
array of those data points as consolidated 3-space vectors

  [num_rows num_columns] = size(X);
  cnt = 1;

for i = 1 : num_rows

  for j = 1 : num_columns

    temp_vector(1) = X(i,j);
    temp_vector(2) = Y(i,j);
    temp_vector(3) = Z(i,j);

   if(sum(isnan(temp_vector(:))) == 0)

      data_array{cnt} = temp_vector;

      full_norm_vector(cnt) = norm(temp_vector);

      temp_domain_vector(1) = temp_vector(1);
      temp_domain_vector(2) = temp_vector(2);

      domain_norm_vector(cnt) = norm(temp_domain_vector);

      cnt = cnt + 1;

   endif

  endfor

endfor

endfunction
```